VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a minor, municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. The discharge results from the operation of a municipal wastewater treatment facility that serves the town and surrounding commercial area. This permit action consists of updating Part I limitations, monitoring requirements and special conditions. SIC Code: 4952

1.	Facility Name and Address:	Montross – Westmoreland WWTP 160 Lyells Street Montross, VA 22520
2.	Permit No.	VA0072729
	Existing Permit Expiration Date:	November 18, 2009
3.	Owner:	Westmoreland County
	Owner Contact Name:	Norm Risavi
	Title:	County Administrator
	Telephone No.:	804-493-0130
	Mailing Address:	P.O. Box 1000 Montross, VA 22520
4.	Application Complete Date:	December 18, 2009
	Permit Drafted By:	Janine Howard, Piedmont Regional Office
	Date:	4.13.11, 4.21.11 (DMM draft: January 5, 2010)
	Reviewed By:	Drew Hammond Date: May 4, 2011 Ray Jenkins Date: June 30, 2011 Curt Linderman Date: 9/13/2011, 12/16/2011
	Public Comment Period:	February 22, 2012-March 23, 2012
	Newspaper:	*The Westmoreland News*

5. Receiving Stream:

Name:	Ruin Branch
River Mile:	3-RUN000.48
Basin:	Rappahannock
Subbasin:	N/A
Section:	2
Class:	VII
Special Standards:	None
1-Day, 10-Year Low Flow:	0.00 MGD
7-Day, 10-Year Low Flow:	0.00 MGD
30-Day, 5-Year Low Flow:	0.035 MGD
30-Day, 10-Year Low Flow:	0.016 MGD
7Q10 High flow months*:	0.18 MGD
1Q10 High flow months*:	0.13 MGD
Harmonic Mean Flow:	undefined
Tidal?	No
On 303(d) list?	No

*The high flow months are December through May
See **Attachment A-** Flow Frequency Memorandum

6. Operator License Requirements: Class II

7. Reliability Class: Class II

8. Permit Characterization:
( ) Private ( ) Federal ( ) State (X) POTW ( ) PVOTW

( ) Possible Interstate Effect ( ) Interim Limits in Other Document

9. **Table 1.** Discharge Description:

Outfall Number	Discharge Source	Treatment	Flow
001	Sewage Treatment Plant	Spiral screen, aerated grit removal, chemical addition (lime, aluminum sulfate, polymers), two sequencing batch reactors, in-line aerated flow equalization, multi-disk fabric filtration, dual UV disinfection units and a cascade aeration unit.	0.13 MGD design flow

According to the application the wastewater treatment plant serves a population of 315 in the Town of Montross, and a population of 3,380 in the greater Westmoreland County.

In March of 2010 the spiral screen was installed and replaced the dual mechanical screens. Additionally, a multi-disk fabric filtration system replaced the sand filtration system. A Certificate to Operate (CTO) was issued on June 28, 2010 for these replacements. Repairs to seven pump stations were also completed at the same time.

See **Attachment B** for a facility diagram.

10. Sewage Sludge Use or Disposal:

Approximately nine (9) tons of sludge is produced at this facility in a one month period. Sludge is aerobically digested, dewatered with a filter press, and hauled to the King & Queen Sanitary Landfill by Allied Waste for disposal. Sludge is hauled during normal business hours approximately once per month.

Sludge haul route: From Montross, right on Route 3 south to US-360. Left on US-17 south. Right on Wares Bridge Road to Wares Church Road. Right on Piedmont Farm Road south and right on Iris Road N to destination (King & Queen Sanitary Landfill, 4443 Iris Rd., Little Plymouth, VA, approximately 48.8 miles).

11. Discharge Location Description: This facility discharges to Ruin Branch, in a swampy location. The discharge is through a diffuser protected with riprap.

Name of USGS topographic map: Montross Quadrangle 167D (See **Attachment C**)

12. Material Storage: The POTW employs and stores a variety of chemicals in the treatment process. Lime, alum and various polymers are stored under roof and are contained in such a manner as to prevent an accidental discharge and/or exposure to storm water.

13. Ambient Water Quality Information: Ambient water quality data from an upstream station at river mile 3-RUN001.39 was used in this analysis to characterize the receiving stream; this station is approximately 0.91 mile upstream of the discharge.

Hardness data was not available at this station; therefore, data from station 3-TBS001.08 is used. Station 3-TBS001.08 is located on The Big Swamp at the Route 623 bridge; The Big Swamp is a tributary of Cat Point Creek and is located in the same watershed.

During the 2010 305(b)/303(d) Water Quality Assessment, the tributaries of Cat Point Creek, including Ruin Branch, were considered Category 2A waters (“Waters are supporting all of the uses

for which they were monitored.") The Aquatic Life Use is considered fully supporting and the Recreation-, Fish Consumption-, and Wildlife Uses were not assessed.

See **Attachment A** - Flow Frequency Memorandum
See **Attachment E -** Ambient Stream Data

14. Antidegradation Review & Comments: Tier 1 __X__ Tier 2 _____ Tier 3 _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. The receiving stream, Ruin Branch, was determined to be a Tier 1 waterbody by virtue of it being a swamp (D.X. Ren April 12, 1995 memo, see **Attachment H**). The Tier designation was reconfirmed with planning staff on 11/21 following the receipt of the revised Stream Sanitation memo dated 11/18/11 (see **Attachment H).** Although the class designation of the receiving waters has changed from Class III to VII since the original stream sanitation memo was drafted, the facility has been discharging for over a decade and a Tier 1 designation is appropriate.

15. Site Inspection: May 5, 2011 Performed by: Janine Howard
January 7, 2009 Performed by: Mike Dare

See **Attachment D –** Site Inspection Reports

16. Effluent Screening and Limitation Development:

Numeric permit limitation calculations utilize conservative low flow ambient conditions to represent circumstances in which the effluent has the greatest potential to impact the receiving stream. At the discharge point, the receiving stream has a 0.0 MGD flow during 7Q10 and 1Q10 low flow conditions; the 30Q5 and 30Q10 low flows were determined to be 0.035 MGD and 0.016 MGD, respectively. A complete mix (100%) assumption for the 0.0 MGD (7Q10 and 1Q10) low flow conditions is appropriate for this discharge and receiving stream. A mix analysis using Mix.exe was performed to provide a mix assumption for the 30Q10 low flow; a complete (100%) mix assumption is appropriate for this flow. The Mix.exe results are available in Attachment G.

Ambient stream data was available from Station 3-RUN001.39 and was used to characterize the receiving stream temperature and pH. Hardness data was not available at this station, however data from Station 3-TBS001.08 in the same watershed and also a tributary of Cat Point Creek was available to characterize the receiving stream hardness. The 90^{th} and 10^{th} percentile maximum effluent pH values were calculated using Discharge Monitoring Report (DMR) data and the maximum effluent temperature reported on the application was taken to be a reasonable estimate of the 90^{th} percentile annual temperature of the effluent. MSTRANTI was used to determine maximum wasteload allocations (WLA) for each water quality parameter that will maintain Water Quality Standards (WQS) in the receiving stream and protect against acute and chronic toxicity. Reasonable potential evaluations of parameters that were reported in quantifiable concentrations on the application were performed using Stats.exe to determine the need for a limitation.

See **Attachment F** for effluent data from the application (Water Quality Criteria Monitoring) and DMR data. Westmoreland County assumed ownership of this facility from the Montross-Westmoreland Sewer Authority in June of 2008. Since that time plant upgrades have been made in order to meet metals limits. For this reason, only the water quality criteria monitoring data (Attachment A) submitted

by Westmoreland County in May of 2009 have been considered for assessing new limits for this facility (as opposed to the WQCM submitted in May of 2008 by the, now defunct, Montross-Westmoreland Sewer Authority).

See **Attachment G** which presents the evaluations for several pollutants of concern. Included in Attachment G is the, MSTRANTI data source report, MSTRANTI, data evaluation and comments, and STATS.exe analyses.

Table 2. Basis for Effluent Limitations

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITS					
		MONTHLY AVERAGE		WEEKLY AVERAGE		MIN	MAX
Flow (MGD)	NA	NL		NA		NA	NL
pH (standard units)	2, 6	NA		NA		6.0 S.U.	8.0 S.U.
$cBOD_5$	3, 4	10 mg/L	4900 g/d	15 mg/L	7400 g/d	NA	NA
Total Suspended Solids (TSS)	3, 4	10 mg/L	4900 g/d	15 mg/L	7400 g/d	NA	NA
Total Kjeldahl Nitrogen (TKN)	3, 4	3.0 mg/L	1500 g/d	4.5 mg/L	2200 g/d	NA	NA
Total Phosphorus	3	2.0 mg/L	NL g/d	NA	NA	NA	NA
Dissolved Oxygen	3, 4	NA		NA		5.0 mg/L	NA
Total Residual Chlorine (TRC)	1, 2	16 µg/L		16 µg/L		NA	NA
Total Recoverable Copper	1, 2	7.3 ug/L		7.3 ug/L		NA	NA
Total Recoverable Zinc	1, 2	68 mg/L		68 mg/L		NA	NA
*E. coli (*N/100ml)	2	126		NA		NA	NA
Fecal Coliform (N/100ml)	5	200		NA		NA	NA

1. Water Quality Based Effluent Limitation
2. Water Quality Standards (9VAC25-260-50, effective 1/6/2011)
3. Best Engineering Judgment (BEJ)
4. Stream Sanitation Memorandum (J. Palmore, 11/18/2011)
5. Shellfish Bacteria TMDL for Upper Rappahannock River
6. Federal Effluent Guidelines (40 CFR Part 133- Secondary Treatment Regulations)

NA = Not Applicable

NL= No limitation, monitoring only

pH: A pH limitation of 6.0-9.0 Standard Units is assigned to all municipal facilities in accordance with federal secondary treatment standard guidelines. However, due to the Class VII waters water quality criterion of 3.7 S.U.-8.0 S.U., the upper bound of the permit limitation is reduced to 8.0 S.U. in the 2011 permit; this limitation is more stringent than the federal effluent guidelines. The lower bound remains 6.0 S.U. in order to conform to the federal effluent guidelines for secondary treatment.

$CBOD_5$, TSS, TKN: These limits, were carried forward from the 2004 permit, and are based on the 11/18/2011 updated Stream Sanitation memorandum (See **Attachment H**).

Total Phosphorus (2.0 mg/L monthly average): This limitation is carried forward from the 2004 permit. The limit was placed in the 2004 permit due to the Nutrient Enriched Water (NEW) Policy (9VAC 25-40-30B). The NEW special standard no longer applies to this facility. The facility is permitted for Total Phosphorus loading under 9VAC 25-820-10 et seq., the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia (permit number VAN020032). Upon issuance of a CTC, DEQ staff shall initiate modification, or alternatively, revocation and reissuance, of this permit, to include annual concentration limits based on the nutrient removal technology listed in the CTC. Upon issuance of a CTO, any nutrient removal facilities installed shall be operated to achieve design

effluent Total Nitrogen and Total Phosphorus concentrations. Until such time, it is DEQ's Best Engineering Judgement to retain the 2.0 mg/L monthly average concentration limit for TP.
Note: Nutrient loadings to the Chesapeake Bay watershed are now limited under the Watershed General Permit (9VAC 25-820). The Watershed General Permit loading limitations became effective for registered significant dischargers on January 1, 2011. This facility is registered under the Watershed General permit (VAN020032) and according to 9 VAC 25-820-30.A, the general permit shall control in lieu of conflicting or duplicative mass loading effluent limitations, monitoring or reporting requirements for total nitrogen and total phosphorus contained in individual VPDES permits for facilities covered by this general permit. As such the total phosphorus and total nitrogen loading monitoring requirements (including the Nitrate plus Nitrite (as N) monitoring limitation), imposed in the 2004 permit due to the Nutrient Enriched Waters special condition (GM 04-2017), have been removed. See change table in Item 21 of the fact sheet.

DO: The existing dissolved oxygen minimum limit of 5.0 mg/L originally proposed by D. X. Ren, in the 1995 stream sanitation memo and reiterated in the 11/18/11 stream sanitation analysis (J. Palmore) is carried forward in the 2011 permit.

TRC: The recommended chlorine limit of 11 µg/l (Stream Sanitation Memorandum) has never been used in the permit for this facility, as the facility was constructed with UV disinfection. During the reissuance process, an effluent TRC concentration 0.03 mg/L was detected. The chlorine is thought to be originating from a local laundromat located on the main street nearby the plant. During the 5.5.11 site visit, TRC was re-tested to verify the original result and an effluent TRC concentration of 0.14 mg/L was measured. A water quality based limit of 16 µg/L was determined to be necessary to protect against chronic toxicity based on the data. This is a new permit limitation and is given a four year schedule of compliance in the permit. This TRC limit is not for disinfection purposes, rather the limit is to protect against aquatic toxicity.

Total Recoverable Copper: A reasonable potential analysis was performed on a dissolved copper datum of 5.5 µg/L, which was reported on the application. The analysis yielded a 9.1 µg/L limitation; this limitation is less stringent than the 2004 permit limitation of 7.3 µg/L. Due to antibacksliding the limitation may not be made less stringent; therefore, the 2004 limitation is carried forward.

Total Recoverable Zinc: A reasonable potential analysis was performed on a dissolved zinc datum of 74.2 µg/L which was reported on the application. The analysis yielded a 82 µg/L limitation; this limitation is less stringent than the 2004 permit limitation of 68 µg/L. Due to antibacksliding the limitation may not be made less stringent; therefore, the 2004 limitation is carried forward.

E. coli: All sewage discharges must be disinfected to achieve applicable bacterial concentrations in accordance with Virginia Water Quality Standards, 9VAC 25-260-170. *E. coli* is the bacterial indicator for sewage effluents discharging to fresh water. This facility passed the bacteria demonstration study during the previous permit cycle (June 1, 2006) and now monitors *E. coli* instead of fecal coliform. In order to protect primary contact recreation uses in surface waters, the effluent limitation of 126 N/100 mL was applied as a monthly geometric mean; this limitation has been carried forward with the 2011 permit reissuance.

Fecal Coliform: Although Ruin Branch is not impaired for the Recreation Use, the facility was addressed in the downstream Shellfish Bacteria TMDL for the Upper Rappahannock River, which was approved by the EPA on 8/10/2010 and by the SWCB on 12/13/2010. The facility received a fecal coliform wasteload allocation (WLA) of 6.89E+07 MPN/day based on a design flow of 0.13 MGD and a fecal coliform concentration of 14 MPN/100mL.

The facility was assigned an incorrect WLA in the TMDL report based on the shellfish designated use in-stream water quality standard of 14 MPN/100ml. The WLA should have been based on the geometric mean standard for fecal coliform of 200 MPN/100ml, as this is the limit generally imposed by DEQ within VPDES permits. The TMDL is being modified to correct the fecal coliform wasteload allocation to 9.84E+08 MPN/day to reconcile the TMDL report with the VPDES permit. The TMDL

modification comment period ended May 24, 2011 with no comments received. The TMDL modification was approved by EPA on 8/4/11.

Due to the Bacteria TMDL, a fecal coliform limitation of 200 N/100ml is applied in the 2011 permit. A monitoring frequency of four samples in each complete calendar month (the minimum recommended monitoring frequency in GM10-2003, the 1/27/2010 edition of the VPDES Permit Manual) is proposed for this parameter because it is included due to a bacterial TMDL. More frequent *E. coli* monitoring and reporting is required to determine if adequate effluent bacterial disinfection is being provided by the UV disinfection system.

Ammonia (NH_3): New water quality limits of 2.63 mg/L monthly average and 3.54 mg/L weekly average were determined using MSTRANTI and STATS. However, these were not applied as the TKN limit of 3.00 mg/L is expected to be protective of ammonia. See **Attachment G** for the STATS.exe evaluation and discussion on ammonia.

Other Parameters: The facility reported detectable data for dissolved antimony, total chromium, dissolved chromium III, dissolved chromium VI, dissolved nickel, dissolved zinc, dissolved copper and chlorides. Dissolved chromium III and VI were measured as total chromium and the analytical report submitted with the application identifies a concentration of 0.5µg/L for the three forms of chromium; a limit for this parameter was not needed based on statistical analysis. A reasonable potential analysis was performed on each of the metals (except antimony) and no limitations were necessary (see **Attachment G**). Dissolved antimony did not have an acute or chronic wasteload allocation, but was compared to the human health wasteload allocation; the reported value of 0.5 µg/L fell below the wasteload allocation of 810 µg/L and was assessed as not being present in amounts that made water quality limits necessary (see also Attachment G Data Evaluation). All other parameters were reported below DEQ required quantification levels and considered absent for the purposes of this evaluation; these parameters are not believed to present a reasonable potential to cause or contribute to a water quality standard violation.

Human Health Evaluation:
This facility does not discharge to a stream segment that is a public water supply (PWS), therefore, Human Health PWS (HH_{PWS}) standards do not apply. However, each parameter, found in measureable concentrations or at concentrations greater than the agency QL, are listed in Table 3 below and compared with HH_{PWS} standard. In addition to the HH_{PWS} standard, many of these parameters also have a human health (all other surface waters) standard; because comparison to the HH_{PWS} is the more conservative approach, the human health (all other surface waters) standards are not listed here. The radionuclides reported are also included. As indicated in Table 3, these parameters do not present a reasonable potential to present a human health concern.

Table 3. Human Health Evaluation

Parameter	**Human Health Standard$_{PWS}$ (µg/L)**	**Effluent Concentration (µg/L)**	**Exceed Human Health Standard**
Antimony	5.6	0.5	NO
Arsenic	10	<60	Undetermined*
Total Chromium	100	0.5	NO
Copper	1,300	5.5	NO
Nickel	610	1.2	NO
Zinc	7,400	74.2	NO
Chlorides	250,000	52,000	NO
Beta Particle & Photon Activity*	4 mrem/yr	8.62 pCi/L	NO**
Gross Alpha Particle Activity	15 pCi/L	ND	NO

*Arsenic: The quantification level (QL) used for this parameter, although specified in the Attachment A (Water Quality Criteria Monitoring) document submitted to DEQ in 2009, is larger than the present Agency minimum QL for arsenic (1.0 µg/L) and was therefore considered present, despite being reported as less than the lab QL of 60 µg/L. A reasonable potential analysis was performed and no limit was necessary in order to be protective of Water Quality Standards. This discharge is not to a public water supply, and a human health (all other surface waters) standard is not defined for this parameter (9VAC25-260-140, effective 1/6/11). The reported parameter concentration falls below the Site Specific Target Value of 90 µg/L as determined by MSTRANTI and does not violate Virginia Water Quality Standards. No further evaluation is needed.

**Beta Particle & Photon Acivity: In the application, data is reported for Beta Particle and Photon Activity in units of concentration (pCi/L) whereas the applicable water quality standard is an exposure in terms of mrem/yr. EPA guidance states that compliance with the potable water standard may be assumed if the average annual concentration of Beta Particle and Photon Activity is less than 50 pCi/L (Radionuclides in Drinking Water: A Small Entity Compliance Guide. EPA 815-R-02-001, February 2002.; http://www.epa.gov/safewater/radionuclides/compliancehelp.html) and the average annual concentrations of Tritium and Strontium-90 are less than 20,000 pCi/L and 8 pCi/L, respectively. Tritium and Strontium-90 had reported values of non-detectable pCi/L, respectively, and Gross Beta Particle and Photon Activity was reported to be 8.62 pCi/L. These results are in compliance with the EPA community potable water systems standard stated above, so for the purposes of this evaluation, these radionuclides are not believed to present a human health concern.

17. Basis for Sludge Use & Disposal Requirements:

Not applicable, as this facility does not land apply sludge. See Item 10 for further details on sludge use and disposal.

18. Antibacksliding Statement: All limitations in the proposed permit are the same or more stringent than the limitations in the current permit.

Total Phosphorus and Total Nitrogen loading monitoring requirements have been removed. This does not constitute backsliding as the annual loading of these parameters is accounted for by the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia, for which this facility is registered (permit number VAN020032).

19. Compliance Schedules:

A four year compliance schedule is given for the new TRC limit (Part I.A.1). Per 9VAC25-31-250 schedules of compliance may be established in permits for existing sources that contain new water quality based effluent limitations. A four year schedule of compliance is afforded because this is a new permit limitation for this parameter.

20. Special Conditions:

Part I. B. Schedule of Compliance for Total Residual Chlorine
Rationale: 9VAC 25-31-250 allows for schedules of compliance, when appropriate, which will lead to compliance with the Clean Water Act, the State Water Control Law and regulations promulgated under them.

Part I. C. Additional TRC Limitations and Monitoring Requirements
Rationale: Required by Sewage Collection and Treatment Regulations, 9VAC25-790 and Water Quality Standards 9VAC25-260-170 (effective 1/6/11), Bacteria; Other Recreational Waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

The VPDES permit manual (1/27/10 edition) calls for the TRC limit in Part I.C.2 to be 1.5 mg/L for waters designated as public water supplies (PWS) or shellfish waters and 1.0 mg/L for other waters. Although the section of receiving stream where this facility discharges does not have the special standard for PWS or shellfish waters, the facility is included in the Upper Rappahannock River shellfish TMDL and was assigned a fecal coliform wasteload allocation. For this reason 1.5 mg/L is deemed appropriate for this permit.

Part I. D.1: 95% Capacity Reopener
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for all POTW and PVOTW permits.

Part I. D.2: O & M Manual Requirement
Rationale: Required by Code of Virginia§62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190 E.

Part I. D3: Licensed Operator Requirement
Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 C and the Code of Virginia § 54.1-2300 et seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.), require licensure of operators.

Part I. D.4: Reliability Class
Rationale: Required by Sewage Collection and Treatment Regulations, 9 VAC 25-790 for all municipal facilities.

Part I. D.5: Sludge Use and Disposal
Rationale: VPDES Permit Regulation, 9 VAC 25-31-100 P, 220 B 2, and 420 through 720; and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

Part I. D.6: Sludge Reopener
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-220 C for all permits issued to treatment works treating domestic sewage.

Part I. D.7: Compliance Reporting
Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a

permit limitation or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

The Quantification Levels (QLs) given for TSS, TKN, TRC, and $cBOD_5$ are standard Agency prescribed QLs used to identify the quantifiable concentration of a particular pollutant in an effluent (Guidance Memo 10-2003). The total recoverable zinc and total recoverable Copper QLs are derived from the Site Specific Target Values (SSTV) calculated in the 2004 MSTRANTI based on effluent and receiving stream conditions at the time the limits were originally derived. Total recoverable zinc and copper concentrations below the SSTV are not expected to generate the need for a water quality based limitation.

Part I. D.8: Materials Handling/Storage
Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

Part I. D.9: Reopeners
Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

Part I. D. 10: CTC, CTO Requirement
Rationale: Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.

9VAC 25-40-70.A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion, or upgrade.

Part I. D.11. Indirect Dischargers
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 and B 2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

This condition is again included in the 2011 permit as a precaution due to past problems and upsets at the plant as a result of accepting septage. During the 2011 Site visit (see Attachment D) it was verified that the plant no longer accepts septage and has no plans to do so in future. Inclusion of this special condition is supported by the Item 16 TRC discussion. The residual chlorine concentrations identified in the effluent that prompted the need for a water quality based permit limitation in the 2011 permit are thought to be a result of an indirect discharge from a laundromat located in Montross.

Part I. D.12. Closure Plan
Rationale: Code of Virginia § 62.1-44.19 of the State Water Control Law. This condition establishes the requirement to submit a closure plan for the wastewater treatment facility if the treatment facility is being replaced or is expected to close.

Part I. D.13. Pretreatment Program
Rationale: VPDES Permit Regulation, 9 VAC 25-31-730 through 900, and 40 CFR Part 403 require certain existing and new sources of pollution to meet specified regulations.

Part II, Conditions Applicable to All Permits
Rationale: VPDES Permit Regulation, 9VAC25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

21. Changes to Permit:

Changes to permit cover page: Cover page boilerplate revised per the January 27, 2010 VPDES permit manual. Stream class and special standards updated to reflect revised Virginia Water Quality Standards, 9 VAC 25-260, effective 1/6/2011. Facility location updated to correct street name (Lyells Street versus Lyell Street).

Table 4. Part I.A.1 Effluent Limitations

Parameter Changed		Effluent Limits Changed		Monitoring Requirement Changed		Reason for Change
		From	To	From	To	
$cBOD_5$	Monthly Average	4.9 kg/d	4900 g/d	No change		Revised for precision in accordance with GM06-2016
	Weekly Average	7.4 kg/d	7400 g/d	No change		
TSS	Monthly Average	4900kg/d	4900 g/d	1/ Month	3 Days /Week	Revised for precision in accordance with GM06-2016. Sampling frequency was revised per 1/27/2010 VPDES Permit Manual; monitoring frequency increased due to the Chesapeake Bay TMDL TSS individual WLA.
	Weekly Average	7.4 kg/d	7400 g/d	1/ Month	3 Days /Week	
TKN	Monthly Average	1.5 kg/d	1500 g/d	No change		Revised for precision in accordance with GM06-2016
	Weekly Average	2.2 kg/d	2200 g/d	No change		
TRC Monthly and Weekly Average		-	16 µg/L	-	1/Month	Water Quality Limit triggered in response to TRC in the effluent
pH		6.0-9.0 S.U.	6.0-8.0 S.U.	No change		Reclassification as Class VII waters and applicable water quality criteria
Total Phosphorus		2.0 mg/L NL g/d	2.0 mg/L NA g/d	No change		NL change to NA to avoid duplicate reporting with the VAN020032 (Watershed General Permit for TN and TP). Monthly loading is reported via the general permit
Orthophosphate		NL	-	2/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit
Total Phosphorus (kg/mo)		NL max	-	1/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit
Total Phosphorus (kg/yr)		110	-	1/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit
Nitrate – Nitrite -N		NL	-	2/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit

Parameter Changed	Effluent Limits Changed		Monitoring Requirement Changed		Reason for Change
	From	To	From	To	
Total Nitrogen	NL	-	2/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit
Total Nitrogen (kg/mo)	NL	-	1/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit
Total Nitrogen (kg/yr)	580	-	1/Month	-	Covered under 9VAC 25-820-10 et seq. Watershed General Permit
E. coli (N/100mL)	126	126	1/Week	3D/Week	*E. coli* replaces fecal coliform as indicator of adequacy of UV disinfection system following completion of the disinfection study 6/1/2006 per GM10-2003 VPDES Permit Manual (1/27/2010 edition). *E. coli* monitoring frequency increased per Manual Section MN-2.
Fecal Coliform (N/100mL)	200	200	1/Week	4/Month	Fecal coliform is no longer used as the disinfection indicator (see above) but is re-included due to inclusion of the facility in the Shellfish Bacteria TMDL for the Upper Rappahannock River. Monitoring frequency revised per GM10-2003 VPDES Permit Manual (1/27/2010 edition) Section MN-3 for bacterial monitoring required due to a TMDL.

"-" = deleted (to column) or no previous entry (from column)

Table 5. Changes to Part I. A. Footnotes (Part I.A.1-5) and Special Conditions (Part I.B., C., and D.)

From	To	Special Condition Changed	Reason for Change
Part I.A.1 a.- i.	Part I.A.1.(a)-(e)	Miscellaneous footnotes either deleted or indicated elsewhere on the page. Footnotes (b), (c), and (d) are new. Footnote (e) language update (formerly footnote i.) to match the proposed Nutrient GP regulation.	Revised for clarity
Part I.A.3	Part I.A.6	85% Min. Removal Requirement	Reordered
-	Part I.A.3	Sample Location	Added for clarity
Part I.A.4	Part I.A.4	Compliance Reporting Citation update	Change reference to Part I. D. 7
-	Part I.A.5	Reference to nutrient GP	Requirement of Guidance Memo 07-2008, Amendment. 2
Part I.B.	[deleted]	Demonstration Study	A fecal coliform limitation is required by this permit for the discharge to be in conformance with the Upper Rappahannock shellfish TMDL
-	Part I.B.	Compliance Schedule for TRC	Added due to new TRC WQ based limitation
-	Part I.C.	Additional TRC Limitations and Monitoring Requirements	Added to account for the possibility of chlorination used as an alternate disinfection method (instead of UV)

From	To	Special Condition Changed	Reason for Change
Part I.C.1	Part I.D.1	95% Capacity Notification	Language update per 1/27/2010 VPDES Permit Manual
Part I.C.2	Part I.D.11	Indirect Dischargers	No language change
Part I.C.3	Part I.D.10	CTC, CTO Requirement	Language update per 1/27/2010 VPDES Permit Manual and GM 07-2008 Amendment 2
Part I.C.4	Part I.D.2	O & M Manual Requirement	Language update per 1/27/2010 VPDES Permit Manual
Part I.C.5	Part I.D.3	Licensed Operator	Language update per 1/27/2010 VPDES Permit Manual
Part I.C.6	Part I.D.6	Sludge Reopener	No language change
Part I.C.7	Part I.D.5	Sludge Use and Disposal	Language update per 1/27/2010 VPDES Permit Manual
Part I.C.8	Part I.D.4	Reliability Class	No language change
Part I.C.9	Part I.D.7	Compliance Reporting	Language update per 1/27/2010 VPDES Permit Manual; Part e. added per 6/29/2010 PRO staff decisions and QLs updated to reflect removal of some monitored parameters (Nitrate Nitrite, Orthophosphate, TP).
Part I.C.10	Part I.D.13	Pretreatment Program	Language update per 1/27/2010 VPDES Permit Manual
Part I.C.11	Part I.D.8	Materials/Handling Storage	Language update per 1/27/2010 VPDES Permit Manual
Part I.C.12	Part I.D.9	Reopeners (expanded)	Language update and additions per 1/27/2010 VPDES Permit Manual and GM 07-2008 Amendment 2
Part I.C.13	-	WQ Criteria Re-opener	Deleted, no longer necessary
Part I.C.14	-	Nutrient Reporting Calculations	Deleted, no longer necessary, covered by the Watershed GP
Part I.C.15-16	-	Basis of Design/Interim Optimization Plan for Nutrient Removal	Deleted, no longer applicable due to the effective Nutrient GP load limits
-	Part I.D.12	Closure Plan	Added per 1/27/2010 VPDES Permit Manual
Part I.D.	-	Compliance Schedule for Total Recoverable Copper and Zinc	Deleted, limits are effective

Changes to Part II: Part II.A.4 added to address the Virginia Environmental Laboratory Accreditation Program (VELAP) requirements. The addition was made in accordance with the WPM 7/19/11 email and Central Office guidance. Part II.K.1.c second sentence updated to reflect "public agency" rather than "federal agency" in accordance with the VPDES permit manual (1/27/10 edition), section MN-1.

22. Variances/Alternate Limits or Conditions: None

23. Regulation of Users: 9VAC25-31-280 B 9: Not applicable, this facility is a POTW.

24. Public Notice Information required by 9 VAC 25-31-280 B:

Comment period: Publishing Newspaper: *The Westmoreland News*
Publication Dates: 2/22/2012 and 2/29/2012
Start Date: 2/22/2012 End Date: 3/23/2012

All pertinent information is on file and may be inspected, and copied by contacting Janine Howard at Virginia DEQ-Piedmont Regional Office, 4949-A Cox Road, Glen Allen VA 23060, (804) 527-5046, e-mail Janine.howard@deq.virginia.gov.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit. The public may review the draft permit and application at the DEQ office named above by appointment or may request copies of the documents from the contact person listed above.

Public Notice Comments:

No public comments were received during the public comment period. The draft permit has not changed as a result of the public comment period.

25. Additional Comments:

Previous Board Action: A public hearing was held on July 6, 1987 during the first permit issuance process at the request of Richmond County government and other citizens. The State Water Control Board voted on September 29, 1987 to issue the permit.

Planning Statement: The discharge is in conformance with the existing planning documents for the area (11/28/11, J. Palmore)

Staff Comments:

- This permit expired prior to reissuance due to difficulties in obtaining a complete application and DEQ administrative delays.

- Reduced monitoring was not considered for this facility as it has been subject to enforcement action within the last three years. A Notice of Violation (NOV) was issued on December 17, 2008 for TSS and TKN permit violations. A Warning Letter in September 2008 preceded the NOV, also citing TKN exceedances. The facility was under a Letter of Agreement (issued 8/7/09) to perform critical repairs to the plant to bring the plant into compliance with the TKN and TSS limits. The maintenance work was necessary due to problematic sand filters that had back-flowed into the SBRs causing reduced functionality of the units. The owners cleaned the SBR units of sand, replaced malfunctioning mechanical headworks screens with a spiral screw screen and a manual bar screen, and replaced the sand filters with a more modern and reliable multi-disk fabric filter. A CTO was issued on June 28, 2010 for the plant repairs and the LOA was terminated on August 5, 2010. A subsequent sampling inspection on September 9, 2010 indicated that the facility was meeting the permit limitations. The work conducted at the facility was undertaken to restore optimal plant functionality rather than upgrade the plant's treatment capability and does not constitute an upgrade for nutrient removal.

- Financial assurance does not apply to this facility because it is a POTW.

- Local notification of the draft permit must be to Westmoreland County and Richmond County as the discharge is located right at the county line separating those two counties.

- The 2011 permit fees for this facility were paid on 8/19/2011.

- This discharge is not controversial and is currently meeting the required effluent limits.

- This facility is not a member of the Virginia Environmental Excellence Program (VEEP).

- The permittee has been an e-DMR participant as of 9/24/2008.

- The facility is not subject to coverage under 9 VAC 25-151 General VPDES Permit for Discharges of Stormwater Associated with Industrial Activity (Sector T) due to a design flow of less than 1.0 MGD.

Other Agency Comments:
VDH Office of Drinking Water- Letter dated June 6, 2008 states:
"There are no public water supply intakes within 15 miles downstream of the discharge/activity. We do not object to the permit." VDH did not request a copy of the draft permit.

Division of Shellfish Sanitation- Letter dated January 26, 2009 states:
"The Division has no comments on the proposal. The project will affect condemned shellfish growing waters and will not cause an increase in the size or type of the closure."

EPA Comments: The draft permit package was sent to EPA for review on 12/20/2012 due to its inclusion in the Rappahannock Bacteria TMDL and associated fecal coliform limitation. DEQ received a response from EPA on 1/19/2012, stating that a limited review was performed based on the wasteload allocations in the approved TMDL. EPA stated that they had no comment related to the compliance with the TMDL requirements. No further coordination is warranted.

Nutrient Requirements:

The Rappahannock River Basin is included in the Chesapeake Bay Watershed and the facility is classified as a significant discharger of nutrients to the Chesapeake Bay. The facility is registered for coverage under 9VAC 25-820-10 et seq., the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia (permit number VAN020032). The facility is given a Total Nitrogen load allocation of 1,584 lbs/year and a Total Phosphorus load allocation of 119 lbs/year with a design flow of 0.13 MGD. The Watershed General Permit controls nutrient loading limits rather than the individual permit.

The Chesapeake Bay TMDL was approved by the EPA on 12/29/2010. The TMDL addressed dissolved oxygen and submerged aquatic vegetation (SAV) impairments within the Chesapeake Bay and its tidal tributaries. The Montross-Westmoreland WWTP received the following individual allocations in the Lower Rappahannock River segment (segment ID-RPPMH):

- 1,584 lbs/year of Total Nitrogen
- 119 lbs/year of Total Phosphorus
- 11,877.684 lbs/year of Total Suspended Solids

The TMDL loading allocations for TN and TP are the same as those authorized by the Watershed General Permit. The TMDL TSS allocation of 11,877.684 lbs/yr is greater than the facility's monthly average permit limitation of 3,957 lbs/yr (10 mg/L converted to pounds per year); therefore, the individual permit is in conformance with the TMDL. The facility is not expected to contribute to the impairment.

26. 303(d) Listed Segments (TMDL):

During the 2010 305(b)/303(d) Water Quality Assessment, the tributaries of Cat Point Creek, including Ruin Branch, were considered Category 2A waters ("Waters are supporting all of the uses for which they were monitored.") The Aquatic Life Use is considered fully supporting and the Recreation-, Fish Consumption-, and Wildlife Uses were not assessed.

Although Ruin Branch is not impaired for the Recreation Use, the facility was addressed in the downstream Shellfish Bacteria TMDL for the Upper Rappahannock River, which was approved by the EPA on 8/10/2010 and by the SWCB on 12/13/2010. The facility received a fecal coliform wasteload allocation of 6.89E+07 MPN/day based on a design flow of 0.13 MGD and a fecal coliform concentration of 14 MPN/100mL.

The facility was assigned an incorrect WLA in the TMDL report based on the shellfish designated use water quality standard of 14 MPN/100ml. The WLA should have been based on the geometric mean standard for fecal coliform of 200 MPN/100ml, as this is the limit imposed by DEQ within VPDES permits. The TMDL is being modified to correct the fecal coliform wasteload allocation to 9.84E+08 MPN/day to reconcile the TMDL report with the VPDES permit. The TMDL modification comment period ends May 24, 2011. The TMDL modification was approved by EPA on 8/4/2011. A fecal coliform limitation of 200 N/100ml is applied in the 2011 permit. The facility is not expected to contribute to the impairment.

Also, see nutrient requirements discussion above, for details regarding the Chesapeake Bay TMDL.

27. Summary of attachments to this Fact Sheet:

Attachment A	Flow Frequency Memorandum
Attachment B	Plant Flow Diagram
Attachment C	Topographic Map and Aerial Images
Attachment D	Site Inspection
Attachment E	Ambient Stream Data (Station 3-RUN001.39 and 3-TBS001.08)
Attachment F	Effluent Data: DMR data, Water Quality Criteria Monitoring
Attachment G	MSTRANTI Data source report, Mix.exe Result, MSTRANTI, Data Evaluation, Stats.exe results
Attachment H	Stream Sanitation Memorandum (J. Palmore 11/18/11 and D.X Ren 4/12/95)